

## REMARKS

### **I. Formal Matters.**

Claims 1 and 4-7 are currently pending in this application. Applicant thanks the Examiner for indicating that the drawings filed with the subject application papers on June 8, 2005, are acceptable.

### **II Claims.**

The Examiner rejects claim 1 as allegedly being unpatentable over *Peng, et al.*, U.S. Patent No. 5,797,780 in view of *Nakano et al.*, U.S. Patent No. 6,313,579 under 35 U.S.C. §103(a).

The Examiner acknowledges that *Peng* fails to “exemplify a seal plate formed of pressed frit” (OA page 5). The Examiner relies on *Nakano* to teach this claim element. The Examiner asserts that it would have been obvious to substitute the seal *plate* of *Peng* with the seal pressed frit *bonding* member of *Nakano* (OA page 6). The motivation for the substitution asserted by the Examiner is an increased reliability of bonding between the substrate and the plate and simplified manufacturing (OA page 6).

*Peng* discloses “a sealing [glass] plate substrate 17” (Fig. 4; col. 4, lines 9-12). Further, *Peng* teaches that “[t]he glass plate 17 is adhered to the vitreous glass frits 18, by dispenser” (col. 4, lines 14-15). “The sealing plate/vitreous glass frits assembly” is applied to the opening of a vacuum at a temperature between about 400 to 500°C (col. 4, lines 23-28). *Peng* clearly teaches that the sealing [glass] plate 17 and the vitreous glass frits 18 are *separate* structures, *adhered* together (Fig. 4; col. 5, lines 5-28). Further, *Peng* teaches that the vitreous glass frits 18

*bonds to the inside and outside surfaces* of the back panel **1b**, while the sealing glass plate **17** is adhered to the outside surface of the glass frits **18** (Fig. 4; col. 4, lines 28-34).

In contrast, claim 1 requires, "...a calcined press-molded seal plate . . . a seal plate that is formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate." In addition, claim 1 further requires that the seal plate is used to seal the exhaust hole, particularly, "...a calcined press-molded seal plate, which directly seals the exhaust hole . . . wherein the exhaust hole is sealed tightly by heat-securing of the seal plate..." (claim 1).

*Peng* not only fails to teach or suggest a seal plate of calcined press-molded frit, primary reference *Peng* also fails to teach or suggest the direct sealing of the exhaust hole, *by heat-securing of the seal plate* (i.e., a single component). *Peng* teaches a vitreous glass frits **18** sealer in conjunction with a glass plate **17**. The glass plate **17** taught in *Peng* does not 'seal' the exhaust hole but, rather, spans the exhaust hole (Fig. 4; col. 4, lines 28-34; col. 5, lines 5-28). The vitreous glass frits **18** are not taught as being calcined press-molded crystalline low-melting glass powder, nor taught as forming the plate structure. Substituting the seal *bonding* member **20** of *Nakano* for the sealing plate **17** of *Peng*, fails to provide a single component sealing the exhaust hole, required by claim 1 (*Nakano* col. 4; Fig. 4).

Secondary reference *Nakano* teaches, "[t]he seal bonding member **20** is formed by molding crystalline glass powder of a low melting point made of a mixture of lead borosilicate glass and baking it . . . [having] a softening point of about 390 degrees C." (*Nakano* col. 4, lines 12-15). However, this "baking" step is further described as "when the seal *bonding* member **20**

is baked...the seal bonding member 20...flows, thereby hermetically sealing the...chip tube 11” (col. 4, lines 12-15; col. 5, lines 7-11). *Nakano* teaches a sealer 20 for sealing the chip tube 11 to the exhaust hole. *Nakano* specifically teaches heating the seal bonding member to flowing, which in turn seals the chip tube to the substrate/exhaust hole.

*Peng* particularly teaches vitreous glass frits 18 bond to the inside and outside surfaces of the back panel 1b, while the sealing glass plate 17 is adhered to the outside surface of the glass frits 18 (Fig. 4; col. 4, lines 28-34). *Nakano* and *Peng* both teach a sealer (sealing bond member 20 and glass frits 18, respectively) used in conjunction with a shaped glass component, a glass chip tube and a glass plate, respectively. *Peng* fails to teach sealing of the exhaust hole by a single component and *Nakano* fails to provide this deficiency. In fact *Peng* and *Nakano* teach away from this required claimed element by teaching the use of vitreous glass frits and a flowing sealer, respectively, in conjunction with a glass structure.

Neither in the text cited by the Examiner, nor in the text at large, does *Nakano* teach or suggest the element of “a calcined press-molded seal plate” which is heat secured to directly seal the exhaust hole. *Peng* and *Nakano* both teach a sealer used in conjunction with a glass component. *Peng* fails to teach or suggest a calcined press-molded plate which directly seals the exhaust hole and *Nakano* fails to remedy this deficiency. The person of ordinary skill, when confronted with the two applied references, would not have (and could not have) combined them in the manner suggested by the Examiner to achieve the subject matter of independent claim 1 because the combination would have lacked the above identified express requirements of the

claim. At least for this deficiency, the rejection of claim 1 as being unpatentable over *Peng* in view of *Nakano* under 35 U.S.C. §103(a), should be withdrawn.

The motivation asserted by the Examiner to substitute the seal bonding member of *Nakano* for the glass seal plate of *Peng* fails, at least for the following reasons. The Examiner asserts that increased reliability of bonding between the substrate and the plate and simplified manufacturing are motivations to *substitute* the seal *bonding* member of *Nakano* for the glass seal *plate* of *Peng* (OA page 6). There is nothing to suggest that a single component would result in *simpler* manufacturing (*Peng* Figs. 1-6; *Application* Fig 8). In fact, using a single component to provide both a suitable plate structure and sealing quality, will likely require strict plate/sealer manufacturing tolerances and conditions as compared to manufacturing of the display panel using a plate and sealer made from different materials, each material particularly suited for its purpose (*Peng* col. 2, lines 34-50; claims 18 and 27-29). Subsequent combining and applying of the two components to the substrate is well known and well used in the art (*Peng*, *Morimoto*, and *Nakano*). Teachings that the use of two components is burdensome or unduly complex are lacking (*Peng*, *Morimoto*).

*Peng* and *Morimoto* teach that the combination of the two components provides a feasible and reliable solution (*Peng* col. 2, lines 34-50; claims 18 and 27-29; Fig 5; *Morimoto* abstract; Figs. 7 and 8). Further regarding the asserted motivation of improved reliability, one ordinarily skilled in the art would not be motivated to substitute the glass plate 17 of *Peng* with the seal bonding member 20 in *Nakano* at least because the different components have non-analogous functions requiring different properties. The latter requires adhesion and flowing, while the

former requires spanning an opening and withstanding pressure. At least for failing to provide a reasonable motivation to substitute the glass plate in *Peng* with the seal bond member in *Nakano*, based on evidence of relevant teachings in the art at the time of the invention, the rejection of claim 1 as being unpatentable over *Peng* in view of *Nakano* under 35 U.S.C. §103(a), should be withdrawn.

The Examiner also rejects claim 1 as allegedly being unpatentable over *Morimoto, et al.*, U.S. Patent No. 4,770,310 in view of *Nakano* under 35 U.S.C. §103(a).

The Examiner concedes that primary reference *Morimoto* fails to teach a “seal plate formed of press frit” (OA page 2). Therein, the Examiner relies on *Nakano* to provide this element and makes the assertion that substitution of the seal bonding member 20 in *Nakano* for the sealer 27 and seal plate 28 of *Morimoto* is obvious (OA page 3).

*Morimoto* teaches an exhaust hole sealed by a planar plate lid member 28 by means of a sealer 27 (col. 4, lines 11-17; Fig. 4). Sealer 27 is used for bonding the plate lid member 28 to the rear cover 21. Further, *Morimoto* teaches suitable sealers include various metal oxide solder (col. 4, lines 16 -25).

In contrast, claim 1 requires, “...a calcined press-molded seal plate which directly seals the exhaust hole. . .[a] plate that is formed of pressed frit prepared by press-molding crystalline low-melting glass powder and calcining the molded plate” (claim 1). The Examiner applies *Morimoto* and *Nakano*, in a manner analogous to the application of *Peng* and *Nakano* in the rejection of claim 1 traversed above. Therefore an argument analogous to that discussed above traversing the rejection of claim 1 as being unpatentable over *Peng* in view of *Nakano* is hereby

asserted in traversal of the rejection of claim 1 as being unpatentable over *Morimoto* in view of *Nakano*. At least for this deficiency and further for failing to provide a motivation to combine *Morimoto* with *Nakano* in the manner suggested by the Examiner, it is respectfully submitted that this rejection should be withdrawn with respect to independent claim 1 and its dependent claims 5 and 6.

The Examiner rejects claim 4 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Morimoto*, and further in view of *Nakatake, et al.*, U.S. Patent No. 6,827,623. Claim numeral 4 depends from independent claim 1. As already pointed out, above, the *Morimoto* reference is deficient with respect to independent claim 1. Applicant respectfully submits that it is clear that the *Nakatake* reference does not compensate for the deficiencies of *Morimoto*, vis-à-vis claim 1. Applicant therefore respectfully requests the Examiner now also to withdraw this rejection of dependent claim 4, for substantially the same reasons as already mentioned.

The Examiner rejects claim 7 under 35 U.S.C. §103(a) as allegedly being unpatentable over *Morimoto*, in view of *Nakano*, and further in view of *Tsunoda, et al.*, U.S. Patent No. 5,914,531. Claim 7 depends from independent claim 1. Applicant has already demonstrated that *Morimoto*, *Nakano*, and their combined teachings are all deficient with respect to independent claim 1. Applicant respectfully points out that *Tsunoda* does not compensate for the already acknowledged deficiencies of the *Morimoto/Nakano* combination. Therefore, even taken as a whole for what they would have meant to the person of ordinary skill, the combined teachings of these three references would not have (and could not have) lead such person to the subject matter of independent claim 1, much less the more specific requirements of dependent claim 7.

AMENDMENT UNDER 37 C.F.R. §1.116  
U.S. SERIAL NO. 10/624,891

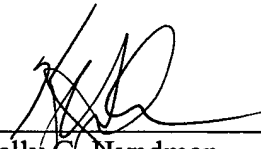
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Applicant therefore respectfully requests the Examiner to withdraw this rejection of dependent claim 7.

In view of the preceding amendments and remarks, reconsideration and allowance of this application are believed to be in order, and such actions are hereby solicited. If any points remain in issue that the Examiner feels may be best resolved through a personal or telephonic interview, the Examiner is kindly requested to contact the undersigned attorney at the local telephone number listed below.

The USPTO is directed and authorized to charge all required fees (except the Issue/Publication Fees) to our Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

  
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